

**Utility Model Laid-Open Publication No. [58-172287] (JU 58-172287A)**

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**Application No. 57-069335**

**Filing Date: May 12, 1982**

**Applicant: Nissan Motor Co., Ltd.**

**TITLE OF THE INVENTION: Acoustic apparatus for vehicle**

**[CLAIMS]**

An acoustic apparatus for a vehicle, wherein a vehicle interior panel is combined with an acoustic exciter to serve as a diaphragm, comprising a reinforcing member provided to said diaphragm and adapted to prevent bending of said diaphragm due to an external load.

**[BRIEF DESCRIPTION OF THE DRAWINGS]**

FIG. 1 is a top plan view showing a conventional vehicle acoustic apparatus.

FIG. 2 is a sectional view taken along the line II-II in FIG. 1.

FIG. 3 is a sectional view showing an acoustic exciter installed in the conventional vehicle acoustic apparatus.

FIG. 4 is a sectional view showing a vehicle acoustic apparatus according to a first embodiment of the present invention.

FIG. 5 is an explanatory diagram showing a production process for the vehicle acoustic apparatus according to the first embodiment.

FIG. 6A is a sectional view showing an acoustic exciter used in a vehicle acoustic apparatus according to a second embodiment of the present invention.

FIG. 6B is a top plan view showing the acoustic exciter in FIG. 6A.

FIG. 7 is a sectional view showing the vehicle acoustic apparatus according to the second embodiment.

FIG. 8 is an explanatory diagram showing a production process for a vehicle acoustic apparatus according to a third embodiment of the present invention.

FIG. 9 is a sectional view showing the vehicle acoustic apparatus according to the third embodiment.

FIG. 10A is a side view showing a reinforcing plate used in a vehicle acoustic apparatus according to a fourth embodiment of the present invention.

FIGS. 10B and 10C are explanatory diagrams showing a function of the reinforcing plate in FIG. 10A.

FIG. 11 is an explanatory diagram showing a production process for the vehicle acoustic apparatus according to the fourth embodiment.

FIG. 12 is a sectional view showing the vehicle acoustic apparatus according to the fourth embodiment.

FIG. 13 is a top plan view showing the acoustic exciter in FIG. 12.

1: rear parcel shelf

4: diaphragm

5: acoustic exciter

6: molding die

7: net member

10: reinforcing plate

11: wedge-shaped groove

⑨ 日本国特許庁 (JP)

①実用新案出願公開

② 公開実用新案公報 (U)

昭58-172287

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審査請求 未請求

(全 3 頁)

⑤車両用音響装置

⑥実願 昭57-69335  
⑦出願 昭57(1982)5月12日  
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⑫実用新案登録請求の範囲

車両用内装パネルを振動板として音響加振器と組合せた車両用音響装置において、前記振動板には外部荷重による揺みを妨げる補強部を設けたことを特徴とする車両用音響装置。

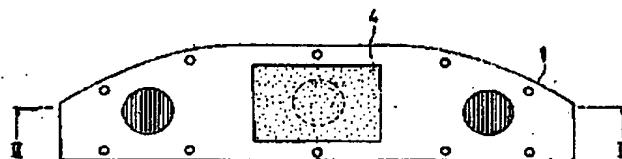
図面の簡単な説明

第1図は、従来の車両用音響装置を示す平面図、第2図は、第1図のI-I線断面図、第3図は従来の車両用音響装置の音響加振器の取り付け状態を示す断面図、第4図は本考案の第1の実施例を示す断面図、第5図は第1の実施例の製造方法を示す説明図、第6図は第2の実施例に用いられる音響加振器の断面図、第7図は同部分平面図、

第7図は第2の実施例を示す断面図、第8図は、本考案の第3の実施例の製造方法を示す説明図、第9図は本考案の第3の実施例を示す断面図、第10図は、本考案の第4の実施例に用いられる補強板の側面図、第11図は、同補強板の作用を示す説明図、第12図は、本考案の第4の実施例の製造方法を示す説明図、第13図は本考案の第4の実施例を示す断面図、第14図は同平面図である。

1…リヤバーセルシェリフ、4…振動板、5…音響加振器、6…成形型、7…網状部材、10…補強板、11…くさび状溝。

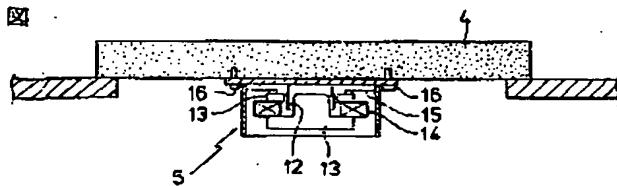
第1図



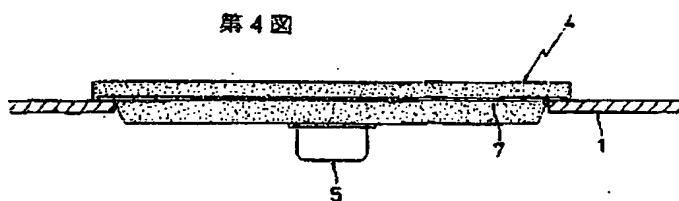
第2図



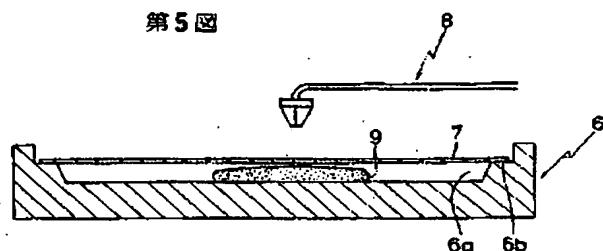
第3図



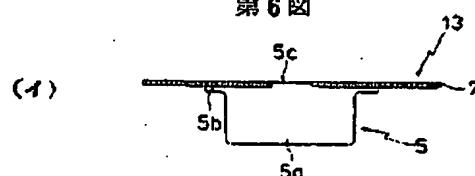
第4図



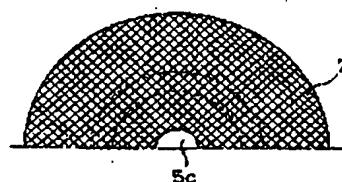
第5図



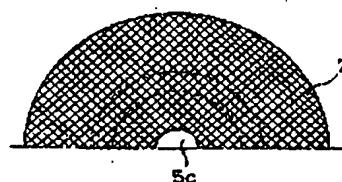
第6図



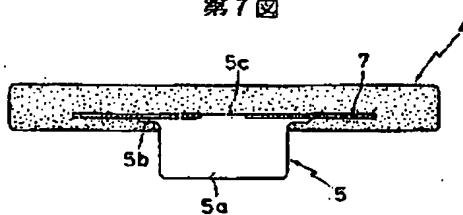
(A)



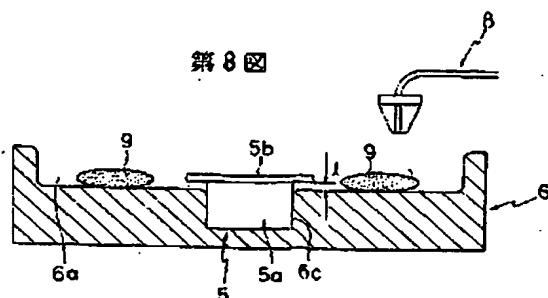
(B)



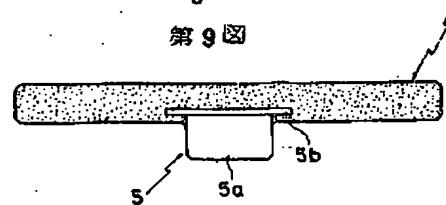
第7図



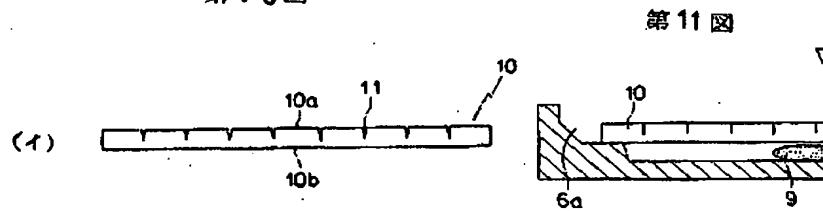
第8図



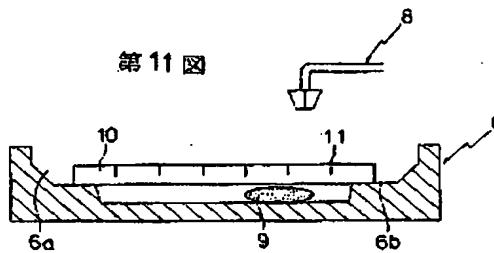
第9図



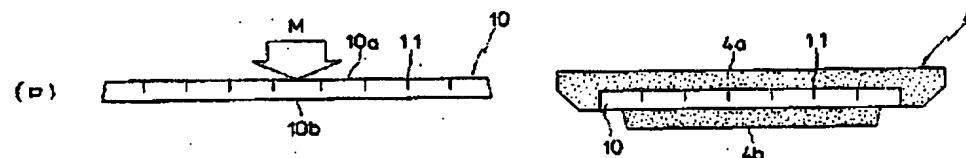
第10図



第11図



第12図



第13図

